

**DEPARTMENT OF ENERGY  
HOISTING AND RIGGING TECHNICAL ADVISORY COMMITTEE  
MEETING MINUTES  
Germantown, MD  
June 7-8, 2006**

The Chairman, Pat Finn, Department of Energy (DOE-HQ, EH-22) called the meeting of the DOE Hoisting and Rigging Technical Advisory Committee (HRTAC) to order. Mr. Finn welcomed attendees and introductions were made. A brief review of recent events was conducted. Following the introductory remarks, the following presentations were made:

1. Messrs. John Reed and Richard Niles (Lawrence Livermore National Laboratory) gave a presentation on a crane incident which occurred during the demolition of building 431 at the lab. During the lift of a portion of the steel structure of this building, the crane was overloaded. Recognizing this, the operator quickly released the load brake and the recoil of the crane boom damaged the lower boom bolts of the crane. Had it not been for the experience and awareness of the crane operator in applying the hoist load brake on the recoiling boom, it is possible that the boom would have impacted the boom stops and buckled the crane boom. The root cause of this incident was lack of appropriate LLNL safety and management oversight which allowed the subcontractor to conduct a hoisting and rigging activity without an appropriate lift plan.
2. Messrs. John Reed and Richard Niles (Lawrence Livermore National Laboratory) gave a presentation concerning the definition of cranes in lifting service. There had been a recent event at the lab where a contractor had used a clam bucket on a mobile crane to remove roof sheeting. Subsequently, the crane was fitted with a load hook to rig for structural steel removal. The contractor insisted that since the crane was being used in demolition, it wasn't being used in lifting service and did not need to follow appurtenant standards. The proposed solution was to add a definition in Chapter 1 of DOE-STD-1090 for "*Lifting Service*." A motion was made and passed to add a definition for "*Lifting Service*" that reads as follows, "*Whenever equipment governed by this standard is used to perform lifts.*"
3. Mr. Danny Donald (Sandia National Laboratory) made a presentation concerning the requirements for proof tests of rigging equipment used for critical lifts. The presentation centered on two issues: differing verbiage in the standard for proof test, proof load, and proof load test; and the possibility of de-rating of equipment in lieu of proof testing. There were a number of suggested changes to the Standard on these topics. Two were passed by committee vote. First, in all chapters addressing the need for a "*proof load test*" for rigging equipment, this verbiage will be changed to "*proof test*." Secondly, a definition for "*proof load*" will be provided in Chapter 1, *Definitions*, which reads "*A specific load applied in performance of a proof load test.*"

4. Mr. Mac McMillan (Idaho National Laboratory) gave a presentation on proposed changes to Chapter 12 of DOE-STD-1090 based upon the recent publication of ANSI/ASME B30.26, *"Rigging Hardware."* The length and breadth of his proposed changes were such that it was not possible to discuss all the proposed changes in the time allotted, nor would it be possible to vote without a clearer view of the impacts upon the existing Chapter 12. Accordingly, it was agreed that a subcommittee would be formed to develop a redline/strikeout version of the proposed changes, including any incorporated graphics by November 1, 2006. Volunteers for this subcommittee were Messrs. Morgan, Viola, Reed, McMillan and Cutshall.
5. Mr. Steve Waisanen (P&H/Morris Cranes) made a presentation to the Committee on several products offered by his firm that may prove beneficial to overhead crane users in the DOE complex. The first topic was the use of an eddy current braking system for the emergency lowering of critical loads. Also shown were portable work platforms used for the renovation or upgrade of existing overhead cranes as well as the installation of maintenance jibs on existing overhead cranes to facilitate maintenance activities.
6. Mr. Pat Finn (DOE, EH-22) discussed the continued applicability of ANSI N14.6, *"Special Lifting Devices for Shipping Containers Weighing 10,000 Pounds or More,"* which was last published in 1993 by the Institute of Nuclear Materials Management and is referred to in the preface to Chapter 14 of DOE-STD-1090, *Below-the-Hook Lifting Devices."* This standard has been administratively withdrawn by ANSI as its required republication date has passed. However, in phone conversations with Mr. Richard Rawls, chairman of ANSI N14.6, he said that an updated version was forthcoming. The Committee agreed to leave the reference to the undated version of this standard in Chapter 14.
7. Mr. Mike Cutshall (Savannah River Site) led a discussion on rigging equipment used in horizontal applications. Key questions in this discussion were which standard and safety factor applies, whether one can use the same rigging equipment for pulling and lifting, whether rigging equipment used for pulling is tested subsequent to use, and whether dynamometers should be used for horizontal applications. After considerable discussion, it was decided to defer on any changes to DOE-STD-1090 until a revision to ANSI/ASME B30.7, *Base Mounted Drum Hoists,"* is published in the near future. The current working draft of this standard differentiates between lifting and pulling and may address such questions satisfactorily.
8. Mr. Dana Morgan (Hanford Site) provided an update on ongoing ANSI/ASME activities with possible impact upon DOE hoisting and rigging operations. In the B30.5 subcommittee, there are discussions of including the need for lift plans and a responsibilities section in their next revision. Also, future revisions to the B30.20, *"Below-the-Hook Lifting Device"* standard will likely refer to the ANSI/ASME BTH-1-2005, *"Design of Below-the-Hook Lifting Devices"* for

design parameters for such devices in lieu of those contained within the current ASME B30.10 standard. These changes, among others, may be considered in future revisions to DOE-STD-1090.

9. Mr. Danny Donald (Sandia National Laboratory) made a request to the committee to add language to DOE-STD-1090 to allow for an approval mechanism for slings that do not meet the configuration requirements listed for wire rope slings in Chapter 11 of DOE-STD-1090. The following Section 11.3.2.3.a.32 was proposed and approved, *“Other configurations may be used provided a qualified person provides a documented engineering evaluation, including a destructive pull test in the configuration to be used, as well as use limitations. Minimum design factor of 5:1 shall be maintained.”*
10. Mr. Mike Viola (Princeton Plasma Physics Laboratory) led a discussion on sling inspection records. The primary issue was whether a color-coded identifier on the sling could be used to connote compliance with annual sling inspection requirements in lieu of separate paper records tied to sling serial numbers. After considerable discussion, a motion was made and passed to add a new Section 11.3.1.6, *Sling Periodic Inspection Records*, which would read as follows, *“Documented periodic inspections shall be made by a qualified inspector. Individual site programs shall describe how inspections are recorded. These records may include an external coded mark on the individual sling tag (e.g. date, annually changed color stripe, etc.) indicating both periodicity and the satisfactory completion of the required inspection, or a written record as acceptable documentation. Any sling which does not meet its inspection criteria shall be removed from service and destroyed.”* It was further agreed to remove all inspection record references under the different sling subsections, sample forms at the end of the chapter, as well as references to the sample forms.
11. Mr. Claude Robison (Oak Ridge National Laboratory) made 5 separate proposals for changes to DOE-STD-1090.
  - 1) The first proposal which was passed called for inserting a new Section 7.1.5, *Rail Sweeps*, which would read as follows, *“Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.”*
  - 2) The second proposal was approved which called for the addition of a new section 7.1.9, *Markings*, which would add the text *“The arrangement of pendant push-buttons stations and radio-control transmitters should conform to Fig. 7.1 respectively. Compass directions or other indicators may be substituted for “right-left” and “forward-reverse” in Figure 7.1, and for W, X, Y, and Z in Figure 7.1. Section 7.1.9.1 will read “Master switches shall be labeled to indicate their functions.”* Figure 7.1 with appurtenant notes will also be added.
  - 3) The next proposal which also passed called for a new Section 10.1.5.2, *Modifications and Alterations*. The approved language reads:

*“In the event that the truck manufacturer is no longer in business and there is no successor in interest to the business, the user may arrange for a modification or alteration to a forklift truck, provided however, the user shall:*

- a. Arrange for modifications or alteration to be designed, tested, and implemented by an engineer expert in forklift trucks and their safety;*
- b. Maintain a permanent record of the design, test(s), and implementation of the modifications or alteration;*
- c. Make appropriate changes to the capacity plate(s), decals, tags, and operation and maintenance manuals;*
- d. Affix a permanent and readily visible label on the truck stating the manner in which the truck has been modified or altered together with the date of the modification or alteration, and the name of the organization that accomplished the tasks.”*

- 4) A proposal was made to add dated and signed monthly inspections for hoists as is currently the case for overhead and gantry cranes. This proposal was rejected.
- 5) A proposal was made and approved concerning approval of forklift attachments. The following language will be added at the end of Section 10.1.4, *“In the event the truck manufacturer provides a negative response or no response, the attachment may be used if written approval is obtained from a qualified Professional Engineer. If the response from the original truck manufacturer is negative, the Engineer must perform a safety analysis and address all safety and/or structural issues contained in the manufacturer’s disapproval.”*

12. Messrs. Mike Baxley and Mike Cutshall (Pantex and Savannah River, respectively) made a proposal to change the wording for determining what constitutes a preengineered production lift. Their proposal was approved and will result in the following changes. Section 3.1 will be deleted in its entirety. Section 3.2 will be reworded as follows:

### *“3.2 PREENGINEERED PRODUCTION LIFT DETERMINATION*

- a. An appointed person shall classify each lift into one of the DOE categories (ordinary, critical, or preengineered production lift prior to planning the lift.*
- b. A lift may be determined to be a preengineered production lift if all of the following criteria are met:*

1. *The group of items to be lifted is identical in terms of dimensions, weight, center of gravity, load path, method of attachment to the lifting equipment, and selection of lifting equipment.*
2. *All items must be lifted in adherence to a specific step-by-step procedure that eliminates job rigging decisions or calculations by lift personnel. The lifting procedure shall address the specific operation and attachment of all lifting equipment, fixtures and accessories.*
3. *Training procedures are in place to ensure specialized training is provided to personnel involved in preengineered production lifts.*

After a brief period of open discussion, the meeting was adjourned.